

REPORT DOCUMENTATION PAGE

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SUBJECT: Authorization for Release of Technical Information, Control Number: AFRL-PR-ED-TP-1998-074

Keith McFall "COTAR Opening Remarks IHPRPT"

(Statement A)



HPHS
SEMI-ANNUAL REVIEW 1



COTR OPENING REMARKS

IHPRPT

K. MCFALL

15 APRIL 1998

Introduction

- IHPRPT is a joint DOD-NASA-Industry program to increase US rocket propulsion capability by the year 2010.
- Technology development goals are selected by a government-industry panel, the IHPRPT steering committee.
- Planning began in 1992 and was finalized in 1996.
- IHPRPT consists of three phases with 2000, 2005 & 2010 end dates.
- The HPHS program is an IHPRPT effort supporting Phase I.



IHPRPT Goal



- HPHS effort addresses the Phase I Electro-Static Propulsion Goal
- The Goal is derived from the basic system performance metrics.
 - Thrust, Power, Life, Dry Mass, Specific Impulse
- Current Goal: 20% increase in system total impulse/wet mass
 - $I_{tot} = m_{dot} t_{life} I_{sp} g : (N\cdot s)$
 - $M_{wet} = M_{dry} + (1+f_{tank}) m_{dot} t_{life} : (kg)$
- The Goal is a strong function of Isp
- It is estimated that the HPHS performance level will approach that needed to meet the goal
- Contract SOW conforms to a previous set of IHPRPT requirements
 - Thruster & PPU Efficiency, Life, and Cost
- Current Goal was established by the steering committee during FY97

Contract Requirements and IHPRPT Goal



- Contractor demonstrates Hall system meeting SOW requirements.
- Performance data will be used to evaluate system capability versus the Phase I Goal.
- Technology development is the primary focus. To reduce program cost, use of modeling and non-flight type components in demonstrating IHPRPT compliance is acceptable when technology development is not required.



Concluding Remarks

- The HPHS is an IHPRPT program.
- The program should result in a system that addresses both SOW performance requirements and the IHPRPT Total Impulse / Wet Mass goal.
- While the IHPRPT goal and SOW performance requirements are not identical, it seems that both can be addressed without significantly affecting the effort.